DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
WASHINGTON. D.C. 20372

IN REPLY REFER TO

BUMEDINST 5360.24
11
15 April 1974

BUMED INSTRUCTION 5360.24

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical Personnel

Subj: Brain death or electrocerebral silence; determination of

Ref: (a) Report of Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death; Beecher, et al, J.A.M.A., 205:6, pp. 85-88, August 5, 1968 (NOTAL)
(b) Cerebral Death and the Electroencephalogram, Silverman, et al, J.A.M.A., 209:10, pp. 1505-1510, September 8, 1969 (NOTAL)
(c) When person considered medically and legally dead - Maryland, Md. Ann. Code, Article 43 § 54F (Supp. 1973) (NOTAL)

1. Purpose. To establish definite criteria and procedures for the declaration of cerebral death in cases where patients are being considered as potential donors of living tissue and organ grafts for transplantation.

2. Background. Irreversible brain damage rather than cessation of the cardiac or respiratory function has become a primary factor in the determination of death, mainly as a result of sophisticated intensive care facilities. The requirement of viable organs for transplant programs, coupled with the often unexpected recuperation of the injured brain, dictate that procedures and policies for determination of cerebral death be well-defined and understood by all medical officers who may be concerned.

3. Scope. This Instruction is intended to apply only to cases where organ donation is considered and is not intended to require a determination of cerebral death prior to every declaration of death. For example, cessation of cardiac function remains an acceptable criterion for the determination that death has occurred.

4. Description. Irreversible brain damage is found in those comatose individuals who have no discernible cerebral function and who have permanently lost all ability to maintain external or internal homeostasis, although various physiological functions such as respiration may be artifically maintained. Such coma may have various causes ranging from cardiac arrest to massive brain damage or intracranial lesions. However, respiratory and circulatory failure underlie all these, resulting in hypoxia and ischemia of the brain.

5. Criteria. References (a), (b) and (c) were utilized to provide technological precedence for the establishment of standards for determining cerebral death. The following criteria shall be applied:

a. Nature and duration of coma

(1) The etiology of the coma must be the result of presumptive permanent damage to the brain.

(2) Depressant drugs (such as barbiturates) must be excluded as a cause of the coma. When indicated, serum or urine screening for depressant drugs will be performed with adequate positive and negative controls.

(3) Hypothermia must be excluded as a cause of coma.

(4) The coma must be observed for at least 13 hours.

b. Absence of cortical function

(1) The patient must be unresponsive to all externally applied stimuli except for simple spinal reflexes.

(2) Whenever possible, the EEG should be used to confirm the absence of cortical function. A technically valid period of at least 30 minutes of electrocerebral silence should be recorded on two occasions at least 12 hours apart.

c. Absence of brainstem function

(1) The pupils must be fixed in a mid or dilated position and remain unresponsive to a bright light.

(2) There must be no demonstrable oculo-vestibular reflex.

(3) There must be an absence of respiratory movement during a 3 minute period off the respirator, observed on two occasions at least 1 hour apart.

d. Minimum time period required prior to determination of death. Under no circumstance shall a determination of cerebral death be made until a patient has been observed for at least 13 hours. The various procedures outlined in subparagraphs (a), (b) and (c) above should all take place during this 13 hour period.

6. Action

a. Whenever it is anticipated that cerebral death has occurred, one or more physicians shall provide consultation in support of the attending physician. Wherever possible, this consultant should be a neurologist. The consulting physicians may not be members of the transplantation committee or of the transplant team.

b. The consulting physician(s) shall examine the patient and determine cerebral death according to the above criteria.

c. The consulting physician(s) shall determine that the criteria of cerebral death have been met before the attending physician declares expiration of the patient.

d. In no manner should the patient's family or next-of-kin participate in the determination of cerebral death.

e. The consulting physician(s) shall not knowingly be related by blood or marriage to a prospective donee or donor within the third degree of consanguinity.

f. Provided that informed consent has been obtained, any medications preparatory to collection of organs may be administered, and any organs and tissues may be removed as soon as the declaration of death has been issued.

g. Following declaration of death by the attending physician, the transplant team may turn off the life support equipment.

h. The criteria used to determine a cerebral death shall be recorded in the donor's medical records.

Custis

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